

Blue-White[®] **Industries, Ltd.**

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Sales Fax: 714/894-9492
sales@blue-white.com

Chemical Kinetics
376, G3 Johar Town
Lahore, 54000
Pakistan

April 25, 2016

To Whom It May Concern:

Blue-White Industries is pleased to confirm Chemical Kinetics as an Official Authorized Distributor of its' products serving the country of Pakistan.

Blue-White Industries looks forward to continuing our mutually beneficial and successful relationship with Chemical Kinetics.

Cordially Yours,



David Koch
Director of Marketing

CP Series EDI Modules

Product Profile

Based on the traditional EDI technology, revolutionary innovation is carried out to the internal structure of Canpure EDI Module with counter-current full-packing technique adopted, which broadens the water supply requirements of EDI, features simple operation and results in low operating costs.

Product Features

No salt Injection

Canpure EDI does not consume salt and recycle the concentrate in operation, which saves much expense and makes the system much simpler.

Counter current

Concentrate and electrolyte stream are flowing into EDI in opposite directions to feed water can avoid fouling effectively, then it broadens the feed water limit adequately.

Low energy consumption

Canpure EDI filled with resin reduces the EDI module resistivity significantly, which reduces the energy consumption largely.

High quality materials and components

High quality ion-exchange membrane and appropriate degree of resin compaction make the EDI work effectively.

Simple arrangement, installation, operation and electricity safety

Easier to array modules side-by-side on a skid. Toe power connector of Canpure EDI is waterproof.

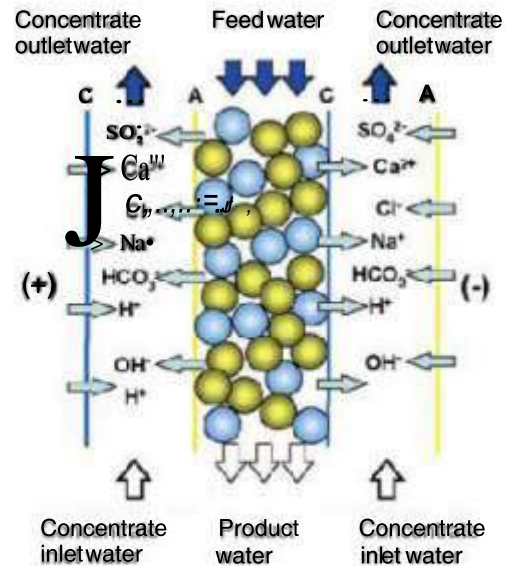


Electrical Specification

- The requirements of DC power used in EDI systems, including ripple and current control, are quite unique. To meet these requirements, Canpure has specially designed DC power units for EDI using IGBT technology.
- Digital display
- High frequency and high efficiency, high PF(power factor), high reliability.
- Low ripple, low noise and small foot print.
- Individually controlled.

Applications

- Advanced boiler feed water desalination
- Purified water for petrochemical and chemical purposes
- Purified water for biochemical and pharmaceutical purposes
- Purified water for electronic industry
- Purified water for laboratories



Operating principle of countercurrent EDI

Technical Parameters of CP Series EDI Modules

module parameters					
Modules	CP-5800S	CP-4SOOS	CP-3600S	CP-2000S	CP-1000S
Size (mm)	616x296x810	616x296x615	616x296x515	616x296x405	616x296x315
Weight (kg)	160	130	110	80	68
Product Flow (m ³ /h)	5.0 - 6.5	4.0 - 5.1	3.0 - 3.8	2.0 - 2.6	1.0 - 1.5
Concentrate Flow (m ³ /h)	0.5 - 0.65	0.4 - 0.51	0.3 - 0.38	0.2 - 0.26	0.1 - 0.15
Electrolyte Flow (m ³ /h)	0.06				
DC Power	CB-500	CB-500	CA-350	CA-350	CA-350
Operation Voltage (V)	100 - 450	80 - 300	50 - 240	50 - 160	20 - 100
Operation Current (A)	0.5 - 5.5				

Feed water requirements	
TEA (Total Exchanged Anion)	Maximum 35 ppm
Applied Feed Pressure	Maximum 0.4 MPa (60 psi)
Feed-Product Pressure Drop•	0.15 ± 0.02 MPa (22 ± 3 psi)
Concentrate Pressure Drop•	0.1 ± 0.02 MPa (15 ± 3 psi)
Hardness (as CaCO ₃)	Maximum 1 ppm
Organics (as TOC)	Maximum 0.5 ppm
Oxidizers (Cl ₂ /O ₂)	Not detectable
Metals (Fe, Mn, etc.)	Maximum 0.01 ppm
SiO ₂	Maximum 0.5 ppm
SDI _s	< 1.0
Conductivity	Maximum 60 µstem (as NaCl)
Operating Temperature	5 - 35 °C (41-95 °F)
Operating pH Range	7.0 - 9.0


Canpure Equipment International Limited

Dated: 01-07-2020

TO WHOM IT MAY CONCERN

We hereby confirm that Chemical Kinetics, located at 376 G-III, Johar Town, Lahore is our sole distributor and is authorized to sell our products namely EDI, UF, MF & MBR in its territory (Pakistan Region).

On behalf of Canpure International Ltd.



Dr. Guangzhen Meng,

President



KOLON LIFE SCIENCE, INC.

Water & Eco friendly Chemicals

Kolon Tower, 1-23 Byeoryang-Dong, Gwacheon Si, Korea

Tel : 82-2-3677-3638 Fax : 82-2-3677-3557

Email : yschang@kolon.com <http://www.kolonls.com>

To whom it may be concerned

Date: 25 Oct. 2011

Ref: The Letter of Sales authorization

Dear Sirs,

Hereby we are pleased to introduce **CHEMICAL KENETICS** as our **authorized sales agent** in Pakistan

Our Sales agent represents for sales promotion, marketing and technical services of our **Besfloc** flocculants. **Besfloc™** is a registered trade name of flocculants (water soluble polymer) in Kolon Life Science, Inc.

Kolon Life Science, Inc. is a manufacturer of Polyacrylamide flocculant in Korea. If you want to know the company further details, please visit the web site : www.kolonls.com

Now we hope to be the reliable supplier of **Besfloc** flocculants through our agent for your company. **Besfloc** product has a superior performance to meet the specific requirement for the various industrial fields & municipal sewage dewatering and so on.

Thank you for your attention in this regard and if you have any queries, please feel free to contact us.

Best regards,

Y.S Chang
Manager

CHEMICAL KINETICS
376 G III JOHAR TOWN
2062 LAHORE PAKISTAN

EXCLUSIVE REPRESENTATIVE DECLARATION


I undersigned **Nicola Carbone**, General Manager of ETATRON D.S. S.p.A., manufacturer of metering/dosing pumps and water treatment instrumentation, established in Rome, Via dei Ranuncoli 53, 00134

DECLARE

That is our Unique and Exclusive Representative and Distributor for the Pakistan Territory **CHEMICAL KINETICS**, established at the Islamic Republic of Pakistan is authorized to use ETATRON D.S. brand and its logo in advertisements, exhibitions, fairs and all printed, audio-visual or electronic marketing media in the said territory.

P.S. This declaration is valid until the end of the year 2020 and is renewable.

Rome, Italy 07.07.2020

ETATRON DS SpA
L'Amministratore Unico
Nicola Carbone


ETATRON D.S. S.p.A.

Società soggetta a direzione e coordinamento di ETA RE S.r.l.

Sede - Head Office: Via Dei Ranuncoli, 53 - 00134 Roma - ITALY

R.E.A. 535990 - Reg. Impr. 603384 Capitale Sociale € 1.500.000,00 - Cod. Fisc. 06632160583 - Part. IVA VAT N. IT 01585941006 - N Export M/7011798

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www.etatronds.com - info@etatronds.com



DDP SPECIALITY PRODUCTS INDIA PRIVATE LIMITED

(Formerly TULP OPERATIONS INDIA TRADING PRIVATE LIMITED)

CIN U51909MH2016PTC287856

Reg. office: 81,82.83,8th Floor,

2 North Avenue, Maker Maxity,

Bandra Kurla Complex,

Bandra (East), Mumbai-400051

Tel: +91 22 4071 6000

Fax: +91 22 4022 0749

Date: 04.11.2019

TO WHOSOEVER IT MAY CONCERN

We hereby confirm that M/s CHEMICAL KINETICS based at Lahore, Pakistan are our distributor and are authorized to sell FILMTEC™ RO & Dow Ultrafiltration membranes in Pakistan on non-exclusive basis.

Their contact details are as below:

Chemical Kinetics

376, G3, Johar Town, Lahore, Pakistan

Phone no: +92(42) 3529 0556-8

Fax No: +92(42) 35290559

Contact Person : Mr. Sarfraz Chughtai –Technical Director

Mobile Number : +92 3018455655

Thanking you,

Yours truly

For DDP Speciality Products India Private Limited



Tushar Masurkar

Sr. Manager- Sales




HEAD OFFICE - ITALY

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**ASIA
 ETATRON D.S.
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 Phone/Fax +55 11 3228 5774

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 ETATRON (Ireland) Limited**

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 Fax +353 1883 44 68

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 DOSING SYSTEMS**

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**FRANCE ET PAYS FRANCOPHONES
 ETATRON France - Aquacontrol s.a.s**

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 FRANCE
 Phone +33 1 34 70 02 19
 Fax +33 1 39 37 95 68



DCV00006ML1-G (03-2010)

GENERAL CATALOGUE



Solenoid Driven Dosing Pumps

UK

Flow rate from 0,25 to 140 l/h (0,07 to 37 GPH) • Working pressure up to 20 bar (290 PSI) • Anti-acid plastic casing or die cast aluminum casing • Foot or wall mounting design • Analogical & microcontroller based pumps • Pumps with integrated measures control for pH, mV, free Chlorine and conductivity • Multifunction pumps, flow alarm • Manual stroke length adjustment • Proportional function to external mA signal • Solar panel dosing system

IT - Pompe dosatrici elettroniche

Portate da 0,25 a 140 l/h • Pressione di esercizio fino a 20 bar • Casse in materiale plastico antiacido o in alluminio pressofuso • Montaggio a parete o a basamento • Pompe analogiche o a microcontrollore • Pompe con strumento integrato per misure di pH, mV, Cloro residuo e conducibilità • Pompe multifunzioni, rilevatori di flusso • Regolazione della corsa del pistone • Regolazione manuale frequenza iniezioni • Proporzionali ad un segnale in mA • Proporzionali agli impulsi di un contatore d'acqua • Sistemi di dosaggio con pannello solare

FR - Pompes doseuses électromagnétiques

Débits de 0,25 à 140 l/h • Pression de travail jusqu'à 20 bar • Carcasse plastique ou fonte d'aluminium • Montage mural ou sur pied • Pompes analogiques et à microprocesseur • Pompes avec contrôleur pour les mesures de pH, mV, Chlore et conductivité • Pompes multifonction, alarme de débit • Ajustement manuel de la course du piston • Ajustement manuel de la fréquence des impulsions • Fonction proportionnelle à un signal mA externe • Fonction proportionnelle à des impulsions externes • Système de dosage avec panneau solaire

SP - Bombas dosificadoras electromagnéticas

Caudal de 0,25 a 140 l/h • Presión de trabajo hasta 20 bar • Cuerpo de plástico o aluminio • Montaje en pared o de pie • Bombas analógicas y con microprocesador • Bombas dosificadoras con instrumento integrado para la medida de pH, mV, cloro y conductividad • Bombas multifunciones, alarma de flujo • Regulación manual de la carrera del pistón • Regulación manual de la frecuencia de los impulsos • Función proporcional mediante una señal externa de mA • Función proporcional mediante una señal externa de pulsos • Sistema de dosificación con panel solar

PR - Bombas dosadoras acionadas por solenóide

Vazão de 0,25 à 140 l/h • Pressão de trabalho até 20 bar • Caixa em plástico ou alumínio fundido • Montagem em parede ou base horizontal • Bombas analógicas e baseadas em microprocessador • Bombas com controlador integrado para medição de pH, mV, cloro e condutibilidade • Bombas multifuncionais, com alarme por fluxostato • Ajuste manual do curso do pistão • Ajuste manual da frequência de impulsos • Função proporcional a sinal de 4-20 mA externo • Função proporcional a sinal de pulso externo • Sistema de dosagem com alimentação por painel solar



PKX series



DLX series



DLXB series
(Stroke length adjustment)



BTB series



BT series



HD series



ST-D series



ST-P series



D series



P series



HP2-D series

Motor Driven Dosing Pumps

UK

Piston pumps • Diaphragm pumps • Flow rate up to 7000 l/h (1765 GPH) • Working pressure up to 280 bar (4000 PSI) • Manual stroke length adjustment • Motor with integral Inverter to accept 4÷20 mA signal (15÷50 Hz) • 4÷20 mA servo motor • Pressure relief and safety valves • Pulsation dampers

IT - Pompe dosatrici a motore

Pompe a pistone • Pompe a diaframma • Portate fino a 7000 l/h • Pressione di esercizio fino a 280 bar • Regolazione manuale della corsa • Gruppo motore • Inverter per segnale 4÷20 mA (15÷50 Hz) • Servo motore 4÷20 mA • Valvole di sicurezza e contropressione • Smorzatori di impulsi

FR - Pompes doseuses électromécaniques

Pompes à piston • Membrane mécanique • Débits jusqu'à 7000 l/h • Pression de travail jusqu'à 280 bar • Ajustement manuel du débit • Moteur avec variateur de fréquence intégré pour signal 4÷20 mA (15÷50 Hz) • Servo-moteur 4÷20 mA • Soupapes de sécurité et de contrepresseion • Amortisseur de pulsation

SP - Bombas dosificadoras con motor electrico

Pistón émbolo • Diafragma actuado de forma mecánica • Caudal hasta 7000 l/h • Presión de trabajo hasta 280 bar • Regulación manual del recorrido de la carrera • Grupo motor-inverter para señal 4÷20 mA (15÷50 Hz) • Servo motor, entrada de 4÷20 mA • Válvulas de seguridad y alivio • Amortiguador de pulsaciones

PR - Bombas dosadoras acionadas por motor

Bombas de pistão • Bombas de diafragma atuado mecanicamente • Vazão até 7000 l/h • Pressão de trabalho até 280 bar • Ajuste manual do comprimento do curso • Motor com inversor para comando por sinal externo 4÷20 mA (15÷50 Hz) • Servo-motor 4÷20 mA • Válvula de alívio e válvulas de segurança • Amortecedor de pulsações



Peristaltic Dosing Pumps



B series



BH series



F series



BIOCLEAR CONTROL



MY POOL series

UK

Peristaltic pumps:

- Fixed flow rate
- Adjustable flow rate
- High flow rate
- Available with plastic casing
- Controlled by digital timer
- Washing machine cycles controller • Automatic dosing with conductivity
- Solenoid driven dosing pumps

IT - Sistemi di dosaggio per la detergenza

Pompe peristaltiche:

- Portata fissa
- Portata variabile
- Alte portate
- Alloggiate in cassa in plastica
- Controllate da un timer digitale
- Gestione dosaggio per lavatrici industriali • Controllo della conducibilità con dosaggio automatico • Pompe dosatrici elettroniche

FR - Systèmes de dosage pour lave-vaisselles industriels

Pompes Péristaltiques:

- Débit fixe
- Débit réglable
- Modèles hauts débits
- Disponibles en boîtier plastique
- Contrôle par tempo numérique
- Contrôleur de cycle de machine à laver
- Contrôleur de conductivité pour dosage automatique

SP - Sistemas de dosificación con bombas peristálticas

Bombas peristálticas:

- Caudal fijo
- Caudal regulable
- High flow rate
- Alojadas en cuerpo de plástico
- Controlador con timer digital
- Controlador programable para el ciclo completo de lavado • Dosificación automática con controlador de conductividad • Bombas dosificadoras electrónicas

PR - Sistemas de dosagem com bombas peristálticas

Bombas doseadoras peristálticas:

- Vazão fixa
- Vazão ajustável
- Bombas de alta vazão
- Disponível em caixa plástica
- Controladas por temporizador digital
- Controlador cíclico para máquinas lavadoras
- Bombas dosadoras acionadas por solenóide



AG-SELECT DIN parametric controller



AG-SELECT R parametric controller



E.CO. series



HYCHLOR



Multiple probe holder



pH or Rx (ORP) electrodes

Control instruments

UK

pH, Rx (ORP), chlorine residual analyzer and conductivity meters • Wall or panel mounted design (DIN) • Plastic or glass electrodes • Temperature probes, conductivity probe • Probe holders • Free and total chlorine probe • Hydrogen peroxide probes

IT - Strumenti di controllo

pH, Rx, cloro residuo, conducibilità • Montaggio a parete o su quadro elettrico (DIN) • Elettrodi in plastica o in vetro • Sonde di temperatura, di conducibilità • Portaelettrodi • Sonde per cloro libero e totale • Perossido di idrogeno, acido peracetico e diossido di cloro

FR - Instrumentation

Analyseurs pH, Rx, conductivité, chlore libre • Montage mural et sur panneau (DIN) • Electrodes en plastique ou verre • Sonde de température, sonde de conductivité • Portes-électrodes • Sondes pour le chlore libre et total, pour le peroxyde d'hydrogène, l'acide peracétique et de dioxyde de chlore • Portes-électrodes

SP - Instrumentación

Medidores pH, Rx, conductividad, analizador de cloro residual • montaje de pared y de panel (DIN) • Electrodo de plástico o de vidrio • Sonda de temperatura y conductividad • Portaelectrodos • Sondas para el cloro libre y total • El peróxido de hidrógeno, ácido peracético y el dióxido de cloro

PR - Instrumentação

Medidores de pH, RX e condutividade, analisadores de cloro residual • Montagem em parede ou em painel (DIN) • Eletrodos em plástico ou vidro • Sondas para temperatura e condutividade • Suportes para eletrodos • Sondas para cloro livre e total • Peróxido de hidrogênio, ácido peracético e dióxido de cloro



Control and regulation instruments

UK

Dosing pump and pH, RX (ORP) or conductivity controller built into one compact unit • Level alarm • Cooling towers controller • Multi-parameter photometric analyzer • Control units for pH; RX (ORP); free and total chlorine residual; hydrogen peroxide; peracetic acid; chlorine dioxide; temperature

IT - Strumenti di controllo e regolazione

pH, Rx, cloro residuo e conducibilità con sistema di dosaggio incluso • Allarme di livello minimo • Sistemi di controllo per torri di raffreddamento • Analizzatore fotometrico • Stazioni di controllo e regolazione per pH; RX; cloro libero e totale; perossido di idrogeno, acido peracetico; diossido di cloro; temperatura

FR - Instrumentations et contrôleurs

Systèmes complets: pompe avec contrôleur intégré • Boîtier alarme de niveau • Contrôleur pour tour de refroidissement • Analyseur photométrique multiparamètre • Stations de contrôle pH; RX; chlore libre et total; peroxyde d'hydrogène; acide peracétique; dioxyde de chlore

SP - Instrumentación y controladores

Sistemas completos: bombas dosificadoras con controlador • Unidad de alarma de nivel • Sistemas de control por torres de enfriamiento • Analizador fotométrico multiparametro • Estaciones de control y regulación por pH; RX; cloro libre y total; peróxido de hidrógeno; ácido peracético; dióxido de cloro; temperatura

PR - Instrumentação & controladores

Sistemas completos: bombas dosadoras com controlador integrado • Unidade de alarme de nível • Sistemas de controle para torres de arrefecimento • Analisador fotométrico multiparâmetro • Estações de controle pH; RX; cloro livre y total, peróxido de hidrógeno, ácido peracético; dióxido de cloro; temperatura



B series



P CL-F control unit



Cooling towers control system



PHOTOSHARP S multiparameter analyser

Water meter, mixer, chemical tanks

UK

From 1/2" to 8" demineralised water • Threaded: wet & dry dial • Flanged: dry dial Mixer • For vessel up to 1000 liters capacity • Shaft in PP, 316 Stainless Steel, from 600 to 1200mm • From 0,08 kW to 0,18 kW; manual acting Chemical holding tanks • Capacities up to 1000 liters, polyethylene, graduated scale • Working temperature from -40°C to +60°C • Non toxic - suitable for food industry • UV stabilized • Electromagnetic Flow Meters

IT - Contatori di acqua con emettitori di impulsi

Da 1/2" a 8" • Filettati: quadrante asciutto e bagnato • Flangiati: quadrante asciutto Agitatori • Per serbatoi fino a 1000 litri • Albero in PP o AISI 316, da 600 a 1200mm • Azionamento elettrico: motori da 0,08kW a 0,18kW; azionamento manuale Serbatoi • Fino a 1000 litri, polietilene, graduati • Temperatura di esercizio da -40 a +60°C • Atossici - adatti per l'industria alimentare • Stabilizzati UV • Misuratori di Portata Elettromagnetici

FR - Compteurs d'eau emetteurs d'impulsions

De DN 13mm à DN 200mm • Filetés: cadran noyé ou sec • A brides: cadran sec Agitateurs • Pour bac jusqu'à 1000 litres • Arbre Inox 316 ou revêtu PP de 600 à 1200mm • De 0,08 kW à 0,18 kW; Action manuelle Bacs a reactif • Contenance jusqu'à 1000 litres, polyéthylène, échelle graduée • Température d'utilisation de -40°C à +60°C • Non toxique - Convient à l'industrie agro-alimentaire • Stabilité UV • Débitmètres électromagnétiques

SP - Caudalímetro para agua con emisor de pulsos

Medidas 1/2" a 8" • Conexiones roscadas: cuadrante seco y mojado • Conexiones bridadas: cuadrante seco Agitadores • Para recipientes hasta 1000 litros • Ejes de polipropileno o AISI 316, de 600 a 1200mm • De 0,08 kW a 0,18 kW; Accionamiento manual Recipientes para aditivos • Capacidades: hasta 1000 litros, polietileno • Temperatura de trabajo: -40°C a +60°C • No tóxico - aptos para la industria alimentaria • Estabilizador • UV Caudalímetros electromagnéticos

PR - Contadores emissor de impulso

De 1/2" a 8" Roscados: quadrante banhado & seco • Flangeados: quadrante seco • Agitadores • Para tanques até 1000 litros de capacidade • Hélice em PP, AISI 316, de 600 a 1200mm • De 0,08 kW a 0,18 kW; Acionamento manual • Reservatórios para produtos químicos • Capacidade até 1000 litros, polietileno, escala graduada • Temperatura de trabalho de -40°C a +60°C • Não-tóxico - apto para indústria alimentícia • Estabilizado contra UV • Medidores de vazão Eletromagnéticos



Chemical tank



Flanged water meter



Threaded water meter



Electromagnetic flow meter



Electric acting mixer



Ref. No.: MEL/CH/RG/02/2016/05

16th February 2016

Agent: Chemical Kinetics
Region: Pakistan

Letter of Distribution

To whom it may concern,

We, Metito Emirates LLC, confirm that Chemical Kinetics are an authorized distributor of Metito products in the Pakistan region and have been so since October 2012.

This covers:

- Boiler water treatment
- Cooling water treatment
- Reverse Osmosis Inhibitors
- Wastewater treatment
- Biocides
- Chilled water treatment
- Process chemistries

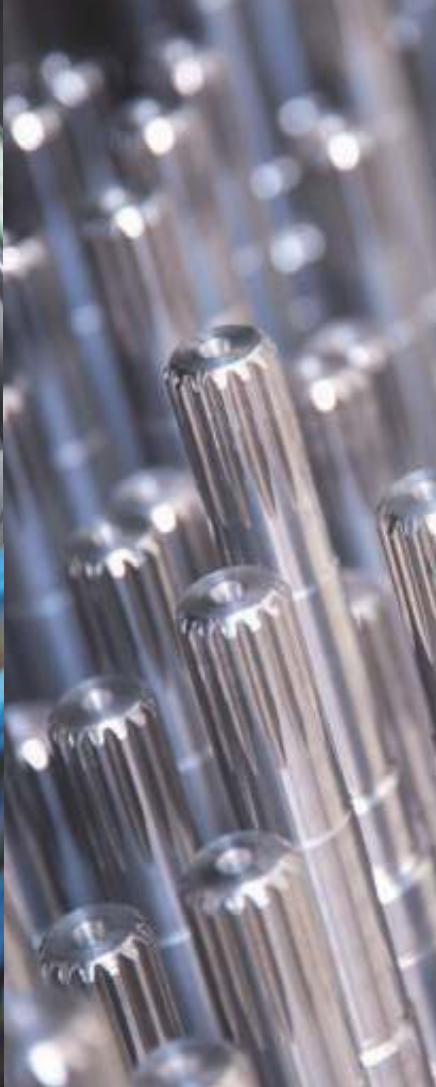
Sincerely Yours,



Fady Juez
Managing Director, Executive Board

METITO EMIRATES LLC
P.O. Box 22701, Sharjah
United Arab Emirates





SAER[®]
ELETTROPOMPE

Corporate Profile

EFFICIENT SOLUTIONS

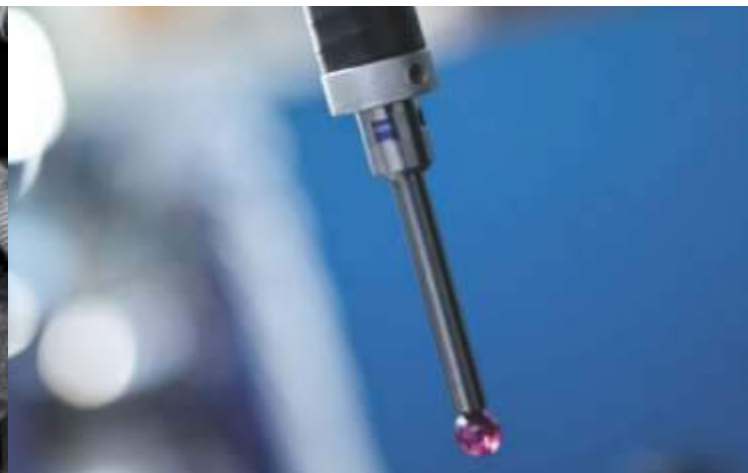
MADE IN ITALY

CONTINUOUS INNOVATION - SINCE 1951

Since 1951 **SAER ELETTROPOMPE S.p.A.** offers innovative solutions in the clear water field, with a complete range of surface and submersible motors and pumps entirely made in Italy, for applications in civil, industrial, marine, firefighting, water supply, mining, heating and cooling, municipal, Oil & Gas, reverse osmosis, residential, agriculture, irrigation and many others. Flexibility, research and development, know-how of over 60 years of experience, full automation of the production processes and collaboration of highly qualified staff are the key elements of SAER success, which is still a family owned Company.

A COMPLETE RANGE FOR ANY NEED

SAER produces and exports more than 700 types of submersible and centrifugal pumps and motors all over the world. End suction pumps according to EN 733 in close-coupled, bare shaft and stub shaft version, end suction pumps with dimensions exceeding the norm, split casing, horizontal and vertical multistage, booster sets, pumps for residential use, radial and semi-axial submersible pumps and submersible motors: **SAER** offers global solutions in the water field. All these features have made **SAER** the preferred choice of many professionals from privates to public Corporations, OEM, contractors, engineering Companies and many others in over 120 Countries around the world.





Back pull-out design for easy maintenance.

Close-coupled pumps.

2 or 4 poles version.
Applications: recycling plants, heating and cooling, plants of water supply, pressurizing units and fire-fighting systems.

Available Materials:
carbon steel, cast iron, bronze, stainless steel AISI 316.

50 Hz, Q max: 400 m³/h (1761 U.S.g.p.m.)
H max: 100 m (328 feet)
Power: 0,37 ÷ 37 kW (0,5 ÷ 50 HP)



IR SERIES

Centrifugal pumps with stub shaft.

Applications: recycling plants, heating and cooling, plants of water supply, pressurizing units and fire-fighting systems.

Available Materials:
cast iron, carbon steel, bronze, stainless steel AISI 316.

50 Hz, Q max: 255 m³/h (1123 U.S.g.p.m.)
H max: 102 m (334 feet)
Power: 5,5 ÷ 75 kW (7,5 ÷ 100 HP)



MG SERIES

End suction pumps according to EN 733.

2 or 4 poles version.
Applications: recycling plants, heating and cooling, plants of water supply, pressurizing units and fire-fighting systems.

Available Materials:
cast iron, carbon steel, bronze, stainless steel AISI 316.

50 Hz, Q max: 675 m³/h (2970 U.S.g.p.m.)
H max: 129 m (423 feet)
Power: 0,37 ÷ 160 kW (0,5 ÷ 220 HP)



NCB SERIES

End suction pumps with dimensions exceeding EN 733.

4 and 6 poles version.
Applications: recycling plants, heating and cooling, plants of water supply, pressurizing units and fire-fighting systems.

Available Materials:
carbon steel, cast iron, stainless steel AISI 316.

50 Hz, Q Max: 2300 m³/h (10127 U.S.g.p.m.)
H max: 97 m (318 feet)
Power: 11 ÷ 355 kW (15 ÷ 480 HP)



NCBK SERIES

Wherever high pressure or large flow is required.

Multistage horizontal pumps.

Applications: residential use, gardening, irrigation, water supply, water automatic distribution using middle pressure tanks, pressurization units.

Available materials:
carbon steel, stainless steel AISI 304, stainless steel AISI 316.

50 Hz, Q max: 40 m³/h (176 U.S.g.p.m.)
H max: 162 m (531 feet)
Power: 0,37 ÷ 11 kW (0,55 ÷ 10 HP)



OP SERIES

Vertical multistage pumps.

Possibility to combine the MK series to all normalized motors.
Applications: lifting plants with or without tank, irrigation systems and wherever high pressure is required.

Available materials:
carbon steel, stainless steel AISI 304, stainless steel AISI 316.

50 Hz, Q max: 40 m³/h (176 U.S.g.p.m.)
H max: 394 m (1292 feet)
Power: 0,75 ÷ 30 kW (1 ÷ 40 HP)



MK SERIES

Multistage vertical and horizontal pumps.

2 or 4 poles version. Radial or axial suction body.
Applications: irrigation, water supply, high pressure lifting, refrigeration, heating and cooling, snowmaking plants, reverse osmosis.

Available materials:
carbon steel, cast iron, bronze and stainless steel AISI 316.

50 Hz, Q max: 700 m³/h (3082 U.S.g.p.m.)
H max: 630 m (2067 feet)
Power: 15 ÷ 500 kW (20 ÷ 680 HP)



TM SERIES

Split casing pumps.

4 and 6 poles version. Low life cycle cost thanks to high efficiency and low maintenance costs.
Applications: recirculating systems, heating, air conditioning, heat recovery, plants of water supply, fire-fighting, irrigation, water treatment.

Available materials:

50 Hz, Q max: 5000 m³/h (22014 U.S.g.p.m.)
H max: 220 m (722 feet)
Power: 15 ÷ 1100 kW (20 ÷ 1500 HP)



SKD SERIES

Innovative Solutions

Booster sets with 2 or more pumps.

Variable or fixed speed.

Applications:

Pressurization and distribution of water in civil, agricultural and industrial plants, heating plants, cooling, air-conditioning and irrigation systems.

Operation: in sequential cascade following the increase of water demand.



TB SERIES

Residential pumps.

A complete range for global solution in residential

Applications: threaded centrifugal pumps, centrifugal peripheral electric pumps, self priming pumps, double impellers pumps, gear pumps, swimming pool pumps, drainage pumps.

Available Materials: cast iron, brass, technopolymer, stainless steel.



RESIDENTIAL SERIES

Submersible enbloc electric pumps.

Modular system: from one pump it is possible to obtain three different versions, with a simple replacement of the lower part (suction grid-MBS, suction base-MBSH, and inlet-MBSL).

Applications: water supply from tanks, basin or open wells, or from 6" wells for residential, civil, agriculture and for pressurization.

Available Materials: AISI 304, carbon steel, thermoplastic resin.



MBS, MBSH, MBSL SERIES

50 Hz, Q max: 18 m³/h (79 U.S.g.p.m.)
H max: 113 m (371 feet) Power: 0,55 ÷ 4 kW (0,75 ÷ 5,5 HP)



CONTROL PANELS & VFD

Control panels & VFD (inverters).

SAER offers even a complete range of control panels compatibles to different starting methods: DOL, star-delta, impedance starting, soft-starting and with inverter. The range includes inverters for the control of surface and submersible electric pump both available in single and three phase. Noiseless, the inverter can be used individually to control one pump or in multiples to control several pumps in parallel or in groups for pressurization.

Under water reliability

Oil filled submersible motors.

4" and 6" completely rewindable motors. Standard NEMA, non toxic oil (USA FDA, US Pharmacopoeia/ National Formulary, USDA, European Pharmacopoeia approved). Single phase or three phase version.

Materials Available:

carbon steel, cast iron, stainless steel AISI 316, stainless steel AISI 304.



50 Hz
Power: 0,37 ÷ 18,5 kW (0,5 ÷ 25 HP)

CL SERIES

Water filled submersible motors.

6", 8", 10", 12" fully rewindable motors. Standard NEMA, up to 8". 2 and 4 poles (starting from 8"). PVC or PE+PA winding.

Materials Available: carbon steel, cast iron, bronze, stainless steel AISI 316, DUPLEX.



50 Hz
Power: 1,5 ÷ 300 kW (2 ÷ 400 HP)

MS SERIES

Semi-axial submersible pumps.

6", 8", 10", 12" and 14" submersible pumps. **Applications:** lifting, pressurizing and distribution in civil and industrial installations, autoclave and cistern inlets, washing plants, irrigation systems, mining and off shore.

Materials Available:

carbon steel, cast iron, bronze, stainless steel AISI 316, DUPLEX.



50 Hz
Q max: 725 m³/h (3192 U.S.g.p.m.)
H max: 388 m (1273 feet)
Power: 3 ÷ 300 kW (4 ÷ 400 HP)

S SERIES

Radial submersible pumps.

4", 6", 8", 10" submersible pumps. **Applications:** lifting, pressurizing and distribution in civil and industrial installations, autoclave and cistern inlets, washing plants, irrigation systems.

Materials Available:

carbon steel, cast iron, brass, noryl, stainless steel AISI 316 and 304.



50 Hz
Q max: 210 m³/h (925 U.S.g.p.m.)
H max: 955 m (3133 feet)
Power: 0,37 ÷ 185 kW (0,55 ÷ 250 HP)







FS, NS, NR SERIES



Efficient solutions made in Italy.

SAER®










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STAIRS PUMPS

COMPANY PROFILE

Company

Stairs Industrial Company Ltd. was established in 1981 with the goal of becoming a major international manufacturer of high quality submersible pumps that would meet or exceed international quality standards, be competitively priced, and would be supported by an organization that would provide excellent service to our customers, while at the same time considering the impact of our pumps and activities on the environment. By constantly and diligently working with these goals in mind, Stairs Industrial Co. Ltd. has grown to be a major international manufacturer of submersible deep well pumps.

After becoming a leading manufacturer of submersible pumps in the Taiwan market, our stainless steel pumps were introduced with the collaboration of an overseas pump manufacturer, in the late 1990's. At that time we began to develop international sales to pump assemblers and manufacturers. Sales are now made to customers in more than 50 countries.

Most of our customers, including some of the best known international pump manufacturers, sell our pumps under their own brand names. Although the name of our company is not widely recognized outside the pump industry because most pumps are sold under other brand names, within the pump industry, Stairs Industrial Co. Ltd. is widely recognized as an innovative, reliable and supportive manufacturer and supplier of submersible pumps for deep wells.



Profile



The continual expansion of sales to new markets and new customers, as well as the growth of sales to existing customers, is a testament to the high quality of our pumps, our competitive pricing, and the exceptional service provided by our staff working closely with our many customers.

We have now adapted our submersible pump design and manufacturing know-how to develop a high quality line of vertical and horizontal pumps for use in high rise buildings and for numerous industrial applications.

Our staff has now grown to about 150 persons. And our production space now encompasses about 17000 square meters housed in three factory buildings, two of which were inaugurated within the past three years.

Increasing sales and our expanding product lines have made it necessary to further increase our production capacity. To take advantage of lower production costs, these investments are being made in Guangzhou, China. Stairs has now taken a partnership position in a stainless steel foundry with 400 employees, and Stairs has established a wholly owned factory adjacent to the foundry, to machine stainless steel castings for our own production to our exacting quality specifications. The capacity of this factory will be increased gradually with the plan to employ about 60 highly qualified personnel.

Although we are proud of what we have accomplished, we realize that we must continually work hard to develop and produce even better pumps, and provide even better customer service while at the same time taking into consideration the affect of our activities on the environment.





VISION

Stairs Industrial Co. Ltd. is a world class manufacturer of submersible pumps for deep wells which provide users worldwide with means of obtaining clean and safe drinking water, as well as water for irrigation and industrial applications. And so, our pumps help to improve the lives of users worldwide.

Stairs Industrial Co. Ltd. is also a manufacturer of efficient and dependable booster pumps for industrial applications and to provide water in high rise buildings.

Stairs Industrial Co. Ltd. pumps are designed to provide users with many years of efficient, cost effective and dependable service.

Working closely with our customers, everyone benefits.

SP Series 4", 6", 8" Stainless Steel Submersible Pumps

SP 4", 6" and 8" submersible pumps are made of corrosion and abrasion resistant stainless steel and have been developed in accordance with state-of-the-art technology. The SP series of pumps are manufactured to the highest standards for energy efficiency, high performance, rugged construction and long service life for the most demanding applications.

Operating Limits

50Hz

- Capacity: max. 120 m³/h
- Head: max. 432 m

60Hz

- Capacity: max. 150 m³/h
- Head: max. 540 m
- Liquid temperature: 0°C to + 60°C
- Sand content: Max. 50 g/m³

Applications

- Potable water supply from deep wells
- Municipal and industrial waters supply
- Irrigation and other agricultural applications
- Fire fighting systems
- Pressure boosting in high-rise buildings and other applications



Product Lines

ST 4" Submersible Pump with Plastic Impellers and Diffusers

Stairs 4" ST series of pumps are manufactured using high quality materials and are designed to deliver years of dependable service. Pumps are on the floating impeller design which reduces starting torque requirements and reduces the effects of sand in the water.

Operating Limits

50Hz

- Capacity: max. 24 m³/h
- Head: max. 322 m

60Hz

- Capacity: max. 27.6 m³/h
- Head: max. 415 m
- Temperature: 0°C to + 60°C
- Sand content: Max. 50 g/m³

Applications

- Potable water supply from deep wells
- Municipal and industrial waters supply
- Irrigation and other agricultural applications
- Fire fighting systems
- Pressure boosting in high-rise buildings and other applications



SB, SBI, SBN Series Vertical Multistage Centrifugal Pumps

SB, SBI and SBN vertical multistage centrifugal pumps are powered by standard electric motor. The motor output shaft directly connects with the pump shaft through a coupling. The pump unit consists of optimized hydraulics, various types of connections, an outer sleeve, a pump head, pump base, four stay-bolts and various other parts. The pump base has suction and discharge ports on the same level (in-line). This in-line design provides a more compact design and easier installation. All pumps are equipped with a mechanical shaft seal of the detachable cartridge type. SB, SBI and SBN pumps are available with various stages and capacities to provide customers a choice of models for many applications.

Operating Limits

50Hz

- Capacity: max. 120 m³/h
- Head: max. 325 m

60Hz

- Capacity: max. 145 m³/h
- Head: max. 270 m
- Liquid temperature: -15°C to + 120°C

Applications

- | | |
|--------------------------------|---------------------------|
| ● Water distribution | ● Irrigation |
| ● Industrial washing equipment | ● Water treatment |
| ● Heat recovery | ● H.V.A.C. |
| ● Pressure boosting | ● Cooling and chiller |
| ● Filtration equipment | ● Aggressive liquids |
| ● General industry | ● Fire-fighting equipment |
| ● Auxiliary equipment | ● Reverse osmosis |
| | ● Swimming pools |



Product Lines

CB, CBI Series Horizontal Multistage Pumps

CB and CBI series of pumps are horizontal, multistage centrifugal pumps, with the impellers mounted on the motor shaft. The pump housing is attached to a base plate. The design makes the pump suitable for installation in small spaces. A high quality mechanical seal is included as a part of the pump.

CB: The discharge and suction chamber are made of cast iron. All other pump parts in contact with the liquid are made of stainless steel.

CBI: All parts of pump in contact with the liquid are made of stainless steel.

Operating Limits

50Hz

- Capacity: max. 14 m³/h
- Head: max. 59 m

60Hz

- Capacity: max. 16 m³/h
- Head: max. 78 m
- Liquid temperature: 0°C to + 90°C

Applications

- Domestic use
- Liquid transfer and circulation of liquids within light industry and farming
- Pressure boosting
- Heating and cooling systems
- Specialized OEM equipment



HBI, HBN Series Multipurpose Stainless Steel Pumps

HBI and HBN series are light-duty stainless steel horizontal multistage centrifugal pumps for use with base mounted electric motors. The mechanical seal is designed for simplified replacement.

These pumps are suitable for pumping slightly corrosive liquids because product contact parts are 304 or 316 stainless steel.

Operating Limits

50Hz

- Capacity: max. 14 m³/h
- Head: max. 58 m

60Hz

- Capacity: max. 16 m³/h
- Head: max. 78 m
- Liquid temperature: -0°C to +110°C

Application

- Air-conditioning system
- Cooling system
- Industrial cleaning
- Water treatment(Water purification)
- Fertilizing/metering system
- Environmental application
- Other special applications



Product Lines

CBK, SBK Series Immersible Pumps

Of advanced design and superior quality, the CBK and SBK is vertical multistage centrifugal pump, available in a wide range of sizes. CBK, SBK pumps are designed for industrial use, particularly for pumping cooling lubricants for machine tools. Pumps are suitable to carry thin, clean, non-explosive liquids without abrasive particles or fibres.

Operating Limits

CBK 50Hz

- Capacity: max. 14.4 m³/h
- Head: max. 100 m

CBK 60Hz

- Capacity: max. 16.8 m³/h
- Head: max. 105 m

SBK 50Hz

- Capacity: max. 8.5 m³/h
- Head: max. 235 m

SBK 60Hz

- Capacity: max. 10 m³/h
- Head: max. 245 m
- Liquid temperature: -10°C to +90°C

Applications

- Industrial circulation system
- Washing/cleaning system
- Filtration system





STAIRS PUMPS

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